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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/939,074 | 08/24/2001 | A. David Erpelding | SJ0920010018US1 | 4237 |

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IBM Corporation
Intellectual Property Law
5600 Cottle Road (L2PA/0142)
San Jose, CA 95193

EXAMINER

BLOUIN, MARK S

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/939,074 | Applicant(s) ERPELDING, A. DAVID | |
| | Examiner Mark Blouin | Art Unit 2653 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Detailed Action

Response to Amendment

- The reply filed on September 13, 2004 was replied to the following effect: Arguments are presented in Paper filed on 9/13/04 and are addressed below.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujiwara et al (USPub 2002/0080532 A1).
3. Regarding Claims 1 and 7, Fujiwara et al shows (Fig. 1) a disk drive (Paragraph [0003]; associated components are inherent) comprising at least one magnetic disk having a recording surface, a motor connected with the disk, a slider with a trailing surface, a magnetic recording head for recording digital data on the recording surface of the disk, the magnetic recording head formed on the trailing surface of the slider, a suspension connected with the slider, the suspension comprising a hinge portion (14), a load beam portion (11) having a first and second outside edge, the hinge portion and load beam portion being formed separately and joined together (Paragraph [0015]), the load beam having a distribution of total mass balanced (inherent in symmetry of beam) about a torsional axis (longitudinal centerline of load beam), the torsional

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axis approximately passing through the pivot point (small circle in the center of (16)), a rigid arm connected with the suspension and an actuator connected with the rigid arm.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2,5,6,8,11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al (USPub 2002/0080532 A1) in view of Blaeser et al (USPN 5,187,625).

6. Regarding Claims 2 and 8, Fujiwara et al shows all the features described, *supra*, but does not show a suspension load beam as wherein the load beam comprises one or more ribs formed along a portion of the load beam, the ribs are formed such that the a distribution of mass of the load beam result in the balance of the total mass about the torsional axis.

Blaeser et al shows a suspension load beam as wherein the load beam comprises one or more ribs (16 and 18) formed along a portion of the load beam, the ribs are formed such that the distribution of mass of the load beam result in the balance of the total mass about the torsional axis.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the load beam of Fujiwara with the load beam having ribs formed such that the distribution of mass of the load beam result in the balance of the total mass about the torsional axis as taught by Blaeser et al. The rationale is as follows: One of ordinary skill in the art at the time the invention was made would have been motivated to replace the load beam of

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Fujiwara with the load beam having ribs formed such that the distribution of mass of the load beam result in the balance of the total mass about the torsional axis as taught by Blaeser et al in order to increase stiffness and reduce vibration, facilitating precise positioning of the magnetic head.

7. Regarding Claims 5,6,11, and 12, Fujiwara et al shows all the features described, *supra*, but does not show a suspension wherein the constrained layer damping material (13) comprises a sandwich of two metal layers and a viscoelastic damping material disposed between the two metal layers.

Blaeser et al shows a suspension wherein the constrained layer damping material (13) comprises a sandwich of two metal layers (12 and 14) and a viscoelastic (Col 2, line 51) damping material disposed between the two metal layers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the load beam of Fujiwara with the load beam having viscoelastic damping material disposed between the two metal layers of Blaeser et al. The rationale is as follows: One of ordinary skill in the art at the time the invention was made would have been motivated to replace the load beam of Fujiwara with the load beam having viscoelastic damping material disposed between the two metal layers of Blaeser et al in order to reduce vibration, facilitating precise positioning of the magnetic head.

8. Claims 3,4,9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al (USPub 2002/0080532 A1) in view of Manzke et al (USPN 4,739,430).

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9. Regarding Claims 3,4,9, and 10, Fujiwara et al shows all the features described, *supra*, but does not show the load beam formed of magnesium or a magnesium rich alloy.

Manzke et al shows (Column 3, lines 4-5) the load beam formed of magnesium or a magnesium rich alloy.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use light weight magnesium or a magnesium rich alloy as the metal material in the beam of Blaeser et al as materials taught by Manzke et al. The rationale is as follows: One of ordinary skill in the art at the time the invention was made would have been motivated to use light weight magnesium or a magnesium rich alloy as the metal material in the beam of Blaeser et al as materials taught by Manzke et al in order to reduce vibration.

Response to Arguments

10. Applicant's arguments filed 9/13/04 have been fully considered but they are not persuasive.

Applicant asserts on pages 5 and 6:

“Fujiwara describes a suspension which has a pair of piezoelectric ceramic elements which can be driven with a voltage to displace the distal end portion of the load beam. Only Fig. 1 of Fujiwara illustrates a complete suspension and the view in Fig. 1 is only a top-down view. Fujiwara does not provide an end-on illustration of the suspension. At the distal end of the suspension in Fig. 1 of Fujiwara, only two features are enumerated: a flexure (15) and another feature (16) which apparently is a slider but does not appear to be expressly mentioned in the specification.”

The Examiner maintains that Fujiwara specifically and clearly shows that a slider is provided at the distal end portion of flexure (15) and that being the case, the Examiner maintains that the circle shown in the center of the slider is a pivot point between the slider and flexure. In addition, the limitation of a “torsional axis” is interpreted broadly, in that the slider pivots around a pivot

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point, which is clearly shown on the longitudinal centerline of the load beam which is a torsional axis of the load beam, depending on the angle at which the slider pivots. Therefore the rejection of Claims 1-12 are upheld.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is (703) 305-5629. The examiner can normally be reached M-F, 6:00 am – 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, William Korzuch can be reached at (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314 for regular and After Final communications.

Any inquiry of general nature or relating to the status of application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read 'Mark Blouin', with a long horizontal line extending to the right.

Mark Blouin
Patent Examiner
Art Unit 2653
December 16, 2004